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ECONOMIC AND ENVIRONMENTAL QUESTIONS: REPORTS OF SUBSIDIARY BODIES, CONFERENCES AND RELATED QUESTIONS

SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

Statement submitted by the Inter-Parliamentary Union, a non-governmental organization in consultative status with the Economic and Social Council, category I

The Secretary-General has received the following statement, which is circulated in accordance with paragraphs 23 and 24 of Economic and Social Council resolution 1296 (XLIV) of 23 May 1968.

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The following text is a summary of the conclusions and recommendations adopted by the Asia and Pacific Inter-Parliamentary Conference on Science and Technology for Regional Sustainable Development, which was organized by the Inter-Parliamentary Union* in Tokyo from 13 to 17 June 1994.

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* As of 1 June 1995, 135 national parliaments were represented in the Inter-Parliamentary Union. Thirteen countries of the Asia and the Pacific region (China, India, Indonesia, Japan, Lao People's Democratic Republic, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand and Viet Nam) were represented at the Conference; 22 other countries (Botswana, Chile, Ecuador, Egypt, Ethiopia, Finland, Iraq, Kuwait, Libyan Arab Jamahiriya, Lithuania, Mexico, Paraguay, Peru, Russian Federation, Senegal, Slovakia, Slovenia, Switzerland, Turkey, Uganda, United Arab Emirates and Zambia) participated in an observer capacity.

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New Directions for Science and Technology

Parliaments call for science and technology to be utilized for sustainable development, and not for destruction

The Asia and Pacific region has proud historical achievements in science and technology, though for a long period, the region experienced the neglect of science and technology and the lack of an environment conducive to scientific and technological creativity. In recent decades, there is once again a resurgence of science and technology in many countries, though not in all. Many countries have built up major scientific and technological capacities. The great diversity in such capacities among countries in the region in itself should stimulate the opportunities for co-operation. It is clearly vital that science and technology, and co-operative endeavours among countries in the region, should be focused primarily on the pursuit of sustainable patterns of development, ensuring both growth and equity and stimulating efficient environmental management. Scientific and technological partnerships both within the region and at a global level need to be stimulated in the context of an imaginative and yet practical regional vision in utilizing science and technology for regional sustainable development.

Parliaments have the responsibility to encourage the use of science and technology for sustainable development, instead of for war and destruction of the environment.

The rationale for wider application of science and technology lies in targeting provision of basic needs

The Asia and Pacific region has half the world's population. It is also the region which contains the majority of the world's population below the poverty threshold. It is clearly recognized that there are important linkages between poverty, population growth and pressures on the environment. Poverty is indeed one of the great sources of environmental degradation. Any practical strategy for sustainable development demands that basic needs of the population be met as a matter of the highest priority. For basic needs to be met in an enduring fashion, it is imperative that such needs are provided not through redistributive mechanisms of government, but through institutional changes that ensure the ownership of assets and command of knowledge by the poor. Along with such institutional change, parliamentarians agreed that science and technology be focused on improving the agriculture and food sector, in developing appropriate technologies for industry, in ensuring energy supplies and health care, and in providing sound environmental management.

- In agriculture, research should be focused on holistic systems of farming, improving smallholder cropping patterns, and on staple and subsidiary crops unique to the region.

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- In industry, more research provision is required for development of relevant technologies, especially for rural industries, and to innovative, cost-effective improvement of existing technologies.

- Research into more efficient commercial energy systems should be parallelled by application of science and technology to the development of renewable energy systems, based on solar, biomass and wind technologies, as well as the better use of cleaner coal technologies. Solar-based energy systems in particular should be developed as a global undertaking.

- In health care, science and technology should be applied to upgrading traditional and indigenous herbal systems of medicine.

- In the field of environment, priority should be attached to conserving the valuable tropical ecology of the region and associated biodiversity, in ecologically sustainable management of agriculture and fishing, controlling and reversing industrial pollution, apart from following up on Agenda 21 of UNCED. The IPU environmental programme should be complemented by an Asia and Pacific regional "Green Network".

- New technologies relating to new materials, renewable energy, ocean technology, electronics technology, and more especially biotechnology and information technology have to be utilized in the context of sustainable development and basic needs. In biotechnology, regional co-operative efforts should be pursued, and in information technology, apart from its use for meeting basic needs, facilities such as INTERNET could be utilized by parliamentarians in the region for improved communication and exchange of experience.

The quality of human capital will gain from greater attention to scientific and technological education, formally and informally. Women's role highlighted

Representatives of the region's parliaments viewed human capital as the most valuable resource a country can possess for its advancement. Scientific and technological education constitutes a critical part of such human capital. Many actions are required to build up this human capital, through formal and informal systems of education, not only in schools and in universities, but also at the work place, in the home and in the general community. Involvement of women in all areas of scientific and technological activity needs to be emphasized.

- Disciplines relating to science and technology should have a higher profile in primary and secondary education. The

quality of teaching requires improvement and facilities such colleges for training teachers, and school laboratories and equipment are crucial. Predictable flows of resources for these purposes are vital.

- Technical schools and polytechnics should be given a more central role in the educational system. Apprenticeship systems linked to technical training need to be encouraged, and governments and private sector enterprises should work in tandem, encouraging specially closer technological interactions between technical schools of a specialized nature and small and medium sized enterprises.

- Scientific and technological research and teaching capacities of universities must be built up, and the cream of scientists and technologists should engage in teaching and research. Appropriate systems of remuneration and research facilities and arrangements for scientific exchange should be further improved.

- Scientists and technologists need to be assured of a central role in decision-making in government and in enterprises, creating an environment conducive to stemming the brain drain of scientists and technologists, and also encouraging their appropriate employment.

Greater interaction between industry and higher education enables major technological gains and more resources for higher education

Business and industry are critical in enabling science and technology to be applied in the pursuit of sustainable development. Parliamentarians called for business and industry, universities and polytechnics to create a greater synergy by expanding their connections.

- Resources allocated by industry and business to research and development need to be increased, and heavy reliance on government-funded research should be reduced. This should be based on a greater appreciation of the contribution of science and technology to increased productivity and profitability.

- Indigenous capacities for selecting, absorbing and integrating the major technological transfers effected through direct foreign investment should be improved, enabling building up of endogenous scientific and technological strength.

- Linkages between business and industry on the one hand, and higher education research institutions on the other, need to be expanded, focusing on practical product development.

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Government policy is critical to effective utilization of science and technology

Parliamentarians agreed that Governments in the region have the responsibility to develop strategies for science and technology, within the framework of overall sustainable development policies and machinery for implementation and evaluation. Governments should determine priorities, secure adequate funding, negotiate in multilateral forums, establishing bilateral co-operative arrangements, create an enabling environment for the private sector and the community, and establish its own scientific and technological research facilities.

- Governments should review current arrangements for private funding of science and technology and establish required incentive systems to generate more resources.

- Current funding arrangements for public sector research need improvement, and a clear definition of priorities is required, apart from increasing resources for science and technology on a predictable long-term basis.

- Scientific and technological issues should be placed at the centre of government decision-making processes, especially through ensuring that scientific and technical institutions have a key role within the machinery of government and through enabling scientists and technologists to be more prominent at higher levels of decision-making.

Countries in the region could make large gains through scientific and technological co-operation

Accumulating scientific and technological capacities, the diversity of levels of development, specially in science and technology, the growing economic interdependence within the region, are all factors which create significant opportunities for scientific and technological co-operation at the regional level.

- Countries can benefit in learning from each other's experience in scientific and technological development. Regional arrangements should be established, utilizing the services of regional institutions, to analyse and examine the policy experience with regard to science and technology in the region.

- Co-operative research efforts should be undertaken on key issues of common concern, especially through the establishment of joint inter-country arrangements for scientific and technological collaboration.

- Interaction between and among research institutions and researchers in the region should be promoted, and there should be greater flows of information on research activities. Networking arrangements, exchange of

personnel through visiting fellowships and attachments, arrangements for training, are all mechanisms to be used in this context.

- Development assistance programmes of countries in the region should be utilized for financing technical co-operation arrangements in science and technology at the regional level.

- Regional bodies, especially agencies such as ESCAP, should devote more effort to issues of scientific and technological co-operation and might consider the subject as a major special theme for an annual conference. Intra-regional training arrangements require further strengthening.

Governments of the region need to be more articulate in shaping global agendas in science and technology

The global environment for application of science and technology for sustainable development in the region requires significant improvement. Parliamentarians called upon Governments of countries in the region and developed countries to act in concert towards this end.

- Developed countries through their development assistance budgets could focus more on science and technology and on building up scientific and technological partnerships in the region.

- Governments in the region should be more actively involved in shaping the global agendas for science and technology, reflecting the special and unique research demands of the region.

National and regional follow-up

Delegations undertook to follow up on their proposals, with their national parliaments and governments, in regional forums, and in the Inter-Parliamentary Union.

- Parliaments without mechanisms to deal with science and technology questions should consider creating such bodies.

- IPU should consider establishing a working group on Inter-Parliamentary communications with a view to setting up an "Inter-Parliamentary Network", using technology such as INTERNET.

- Recommendations on regional inter-parliamentary mechanisms and networks should be pursued through the Asia and Pacific Group of IPU.